

Appendix E

Results of Metal, Salt, Nutrient

And

Radionuclide Sampling and Analysis

Table 1

Metal Concentrations – 1989 to Present

Aluminum to Copper

B = Compound is also detected in the blank. J = Result is detected below the reporting limit or is an estimated concentration. S = Sample diluted due to the concentration of target analytes. U = The MDL was raised to accommodate the detection of constituents in blank
 Wa = Post digestion spike recovery fell between 40-85% due to matrix interference Q = The reporting limit was elevated due to high analyte levels

Appendix E, Table 1 - Metal Concentrations 1989 to Present (Concentrations are in parts per billion)

Well Number	Date Sampled	pH	Specific Conduct (µS/cm)	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper
NRF-6	01/08/92	7.82	1310								
NRF-6	03/10/92	7.92	1315							41.0	
NRF-6	05/14/92	7.92	1340							45.0	
NRF-6	07/08/92	7.88	1390							35.0	
NRF-6	09/18/92	8.05	1400							1.0	
NRF-6	12/09/92	7.86	1400							1.0	
NRF-6	04/09/93	7.89	1470							41.0	
NRF-6	No Data									11.0	
NRF-6	09/14/93	7.83	1450								
NRF-6	11/04/93	7.76	1428							42.0	
NRF-6	03/10/94	7.82	1415							32.0	
NRF-6	06/09/94	7.87	1357							40.0	
NRF-6	No Data										
NRF-6	12/21/94	7.68	1620							33.0	
NRF-6	03/16/95	7.80	1601	10	1.0	3.0	100	10.0	1.0	37.0	1.0
NRF-6	06/09/95	7.84	1639	40	1.0	4.0	100	10.0	1.0	38.0	2.0
NRF-6	09/13/95	7.88	1526	20	1.0	4.0	100	10.0	1.0	34.0	2.0
NRF-6	11/07/95	7.88	1460	10	1.0	4.0	100	10.0	1.0	38.0	1.0
NRF-6	01/16/96	7.37	1447	20	1.0	3.0	100	0.5	1.0	34.0	1.0
NRF-6	03/19/96	7.86	1478	10	1.0	3.0	100	0.5	1.0	30.0	1.0
NRF-6	06/10/96	7.91	1454	10	1.0	3.0	100	0.5	1.0	30.0	1.0
NRF-6	09/05/96	7.85	1480	10	1.0	3.0	100	0.5	1.0	27.0	1.0
NRF-6	01/31/97	7.88	1500	10		3.9	79			95.0	10.0
NRF-6	06/05/97	7.83	1440	100	0.5	3.9	75	0.5	0.3	400.0	7.4
NRF-6	09/02/97	7.87	1450	100	0.3	3.8	78	0.5	0.3	34.0	4.6
NRF-6	11/17/97	7.85	1420	100	0.3	3.6	79	0.0	0.0	27.0	3.9
NRF-6	02/09/98	7.91	1492	100	0.2	3.8	79	0.5	0.3	30.0	3.3
NRF-6	05/11/98	7.97	1451	100	0.5	3.9	78	0.5	0.3	42.0	1.0
NRF-6	08/04/98	7.90	1418	100	2.5	5.0	79	0.5	0.3	42.8	2.0
NRF-6	11/02/98	7.94	1347	56	0.5	5.0	100	0.5	0.3	37.0	2.0
NRF-6	02/04/99	7.98	1290	61	0.5	5.0	69	0.5	0.3	24.2	2.0
NRF-6	05/03/99	8.05	1301	31	0.5	4.3	71	0.5	0.3	30.0	2.0
NRF-6	07/27/99	7.89	1212	39	0.5	5.0	64	0.5	0.3	31.0	2.0
NRF-6	11/01/99	7.80	1114	54	0.5	5.0	58	0.5	0.3	27.0	2.0
NRF-6	01/31/00	7.86	1154	100	10.0	3.5	84	2.0	5.0	25.0	2.1
NRF-6	05/01/00			100	10.0	10.0	57	2.0	5.0	27.0	20.0
	Mean	7.86	1419.19	49.03	0.8	4.0	85.45	2.5	0.6	45.5	2.6
	Std. Dev.	0.12	108.92	37.79	0.5	0.7	14.49	4.0	0.4	67.6	2.3
	Max	8.05	1638.00	100.00	2.5	5.0	100.00	10.0	1.0	400.0	10.0
	Min	7.37	1114.00	10.00	0.2	3.0	58.00	0.0	0.0	1.0	1.0
NRF-7	09/10/91	8.50	257								
NRF-7	01/08/92	8.46	232	400		2.0	100			10.0	4.0
NRF-7	03/10/92	8.50	232							9.0	
NRF-7	05/14/92	8.42	240							8.0	
NRF-7	07/08/92	8.72	255							1.0	
NRF-7	09/18/92	8.50	244							5.0	

B = Compound is also detected in the blank. J = Result is detected below the reporting limit or is an estimated concentration. s = Sample diluted due to the concentration of target analytes. U = The MDL was raised to accommodate the detection of constituents in blank
 Wa = Post digestion spike recovery fall between 40-95% due to matrix interference Q = The reporting limit was elevated due to high analyte levels

Appendix E, Table 1 - Metal Concentrations 1989 to Present (Concentrations are in parts per billion)

Well Number	Date Sampled	pH	Specific Conduct (Scan)										Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper
NRF-7	12/09/92	8.32	243																	
NRF-7	04/09/93	8.26	243															11.0		
NRF-7	06/10/93	8.37	245															13.0		
NRF-7	09/14/93	8.11	254															11.0		
NRF-7	11/03/93	8.07	257															10.0		
NRF-7	03/15/94	8.10	243															12.0		
NRF-7	06/13/94	8.14	240															10.0		
NRF-7	09/12/94	8.30	250															27.0		
NRF-7	11/04/94	8.30	254															12.0		
NRF-7	03/17/95	8.11	238															13.0		
NRF-7	06/09/95	8.21	243															12.0		1.0
NRF-7	09/14/95	8.47	248															14.0		1.0
NRF-7	11/08/95	8.27	259															13.0		1.0
NRF-7	01/16/96	7.98	248															14.0		1.0
NRF-7	03/19/96	8.15	249															14.0		1.0
NRF-7	06/10/96	8.34	250															15.0		1.0
NRF-7	09/03/96	8.51	236															15.0		1.0
NRF-7	01/31/97	8.55	210															13.0		1.0
NRF-7	06/05/97	8.15	238															12.0		10.0
NRF-7	09/02/97	8.46	240															9.7		67.0
NRF-7	11/18/97	8.41	236															10.0		2.5
NRF-7	02/09/98	8.21	255															9.6		16.0
NRF-7	05/11/98	8.25	265															9.3		3.3
NRF-7	08/05/98	8.50	240															11.0		2.0
NRF-7	11/02/98	8.28	258															11.0		2.0
NRF-7	02/04/99	8.16	261															10.1		2.0
NRF-7	05/03/99	8.44	255															8.5		2.0
NRF-7	07/27/99	8.05	262															11.0		2.0
NRF-7	11/01/99	8.12	261															13.0		2.0
NRF-7	01/31/00	8.33	260															12.0		2.4
NRF-7	05/01/00																	12.0		20.0
	Mean	8.31	246.89									148.14	0.7	2.5	75.82	2.5	0.6	11.5		5.9
	Std. Dev.	0.18	11.13								126.81	0.3	0.3	1.5	21.79	4.0	0.4	3.9		14.4
	Max	8.72	265.00								560.00	1.1	1.1	5.0	100.00	10.0	1.0	27.0		67.0
	Min	7.98	210.00								44.00	0.2	0.2	1.0	51.00	0.5	0.1	1.0		1.0
NRF-8	01/17/96	7.60	585																	
NRF-8	03/25/96	7.89	591															6.2		10.0
NRF-8	06/11/96	7.96	544															6.5		10.0
NRF-8	09/04/96	8.02	595															7.1		10.0
NRF-8	01/30/97	7.89	580															7.1		10.0
NRF-8	06/10/97	7.85	595															8.0		10.0
NRF-8	09/04/97	7.92	546															5.0		3.4
NRF-8	11/17/97	7.92	577															5.5		2.0
NRF-8	02/10/98	7.92	604															5.2		1.7
NRF-8	05/13/98	8.00	601															5.5		1.5
NRF-8	08/05/98	7.95	605															6.8		2.0
NRF-8	11/03/98	7.96	603															7.0		2.0

B = Compound is also detected in the blank. J = Result is detected below the reporting limit or is an estimated concentration. S = Sample diluted due to the concentration of target analytes. U = The MDL was raised to accommodate the detection of constituents in blank
 Wa = Post digestion spike recovery fell between 40-85% due to matrix interference Q = The reporting limit was elevated due to high analyte levels

Appendix E, Table 1 - Metal Concentrations 1989 to Present (Concentrations are in parts per billion)

Well Number	Date Sampled	pH	Specific Conduct (µ-S/cm)	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper
NRF-8	02/11/99	8.03	604	< 100	< 0.5	< 5.0	125	< 0.5	< 0.3	Wa	< 2.0
NRF-8	05/03/99	8.10	600	J 27	< 0.5	< 5.0	140	< 0.5	< 0.3	Wa	< 2.0
NRF-8	07/28/99	7.90	597	J 37	< 0.5	< 5.0	140	< 0.5	< 0.3	7.8	J 3.3
NRF-8	11/02/99	7.96	595	500	< 0.5	< 5.0	140	J 1.7	< 0.3	9.5	< 2.0
NRF-8	02/01/00	7.97	588	J 63	< 10.0	< 10.0	140	< 2.0	< 5.0	6.9	J 2.0
NRF-8	05/02/00			J 50	< 10.0	< 10.0	130	< 2.0	< 5.0	7.5	< 20.0
Mean		7.93	587.63	92.25	0.6	3.0	120.56	0.6	0.5	6.6	4.7
Std. Dev.		0.11	20.31	115.61	0.2	1.6	14.87	0.3	0.3	1.2	3.7
Max		8.10	605.00	500.00	1.0	5.0	140.00	1.7	1.0	9.5	10.0
Min		7.60	544.00	10.00	0.5	1.0	100.00	0.5	0.0	5.0	1.7
NRF-9	01/18/96	7.39	630		< 1.0	1.0	100	< 0.5	< 1.0	11.0	< 10.0
NRF-9	03/26/96	7.85	630	30	< 1.0	2.0	< 100	< 0.5	< 1.0	12.0	< 10.0
NRF-9	06/11/96	7.96	648	40	< 1.0	2.0	< 100	< 0.5	< 1.0	14.0	< 10.0
NRF-9	09/04/96	8.06	647	< 10	< 1.0	2.0	< 100	< 0.5	< 1.0	12.0	< 10.0
NRF-9	01/30/97	7.90	680	< 100		1.0	130			21.0	< 10.0
NRF-9	06/10/97	7.88	653	43	< 0.5	1.5	130	< 0.5	< 0.3	11.0	< 2.2
NRF-9	09/04/97	7.96	586	< 100	< 0.5	< 5.0	140	< 0.5	< 0.3	11.0	< 2.0
NRF-9	11/18/97	7.91	595	< 100	< 0.5	1.7	130	< 0.5	< 0.3	9.0	2.7
NRF-9	02/10/98	7.96	647	< 100	< 0.5	J 1.8	120	< 0.5	< 0.3	10.0	3.0
NRF-9	05/13/98	8.01	646	< 100	< 0.5	J 1.8	140	< 0.5	< 0.3	11.0	< 2.0
NRF-9	08/05/98	7.99	646	< 100	< 0.5	< 5.0	140	< 0.5	< 0.3	9.6	< 2.0
NRF-9	11/03/98	7.97	643	< 100	< 0.5	J 1.9	140	< 0.5	< 0.3	11.0	< 2.0
NRF-9	02/11/99	8.03	639	< 100	< 0.5	< 5.0	133	< 0.5	< 0.3	8.2	< 2.0
NRF-9	05/04/99	7.81	634	J 29	< 0.5	< 5.0	140	< 0.5	< 0.3	8.5	< 2.0
NRF-9	07/28/99	7.93	631	J 26	< 0.5	< 5.0	140	< 0.5	< 0.3	12.0	< 2.0
NRF-9	11/02/99	7.99	623	110	< 0.5	< 5.0	150	J 1.6	< 0.3	9.0	< 2.0
NRF-9	02/01/00	7.99	618	< 100	< 10.0	J 3.5	150	< 2.0	< 5.0	8.6	J 1.7
NRF-9	05/02/00			< 100	< 10.0	< 10.0	140	< 2.0	< 5.0	11.0	< 20.0
Mean		7.91	635.50	69.25	0.6	2.9	127.06	0.6	0.5	11.3	4.6
Std. Dev.		0.15	23.43	38.07	0.2	1.7	17.46	0.3	0.3	3.0	3.8
Max		8.06	680.00	110.00	1.0	5.0	150.00	1.6	1.0	21.0	10.0
Min		7.39	585.00	10.00	0.5	1.0	100.00	0.5	0.0	8.2	2.0
NRF-10	05/08/96	7.46	589								
NRF-10	06/12/96	7.99	615	2000	< 1.0	2.0	< 100	< 0.5	< 1.0	17.0	30.0
NRF-10	09/04/96	7.95	615	520	< 1.0	2.0	< 100	< 0.5	< 1.0	17.0	< 10.0
NRF-10	01/30/97	8.07	608	1000	< 1.0	2.0	< 100	< 0.5	< 1.0	14.0	< 10.0
NRF-10	06/11/97	7.93	610	200	< 0.5	9.0	130			16.0	< 10.0
NRF-10	09/04/97	7.62	630	180	< 0.5	1.3	130	< 0.5	< 0.3	10.0	< 2.0
NRF-10	11/18/97	7.96	572	< 100	< 0.5	< 5.0	130	< 0.5	J 0.1	9.5	< 2.0
NRF-10	02/10/98	7.95	562	43	< 0.5	1.5	130	< 0.5	J 0.0	12.0	2.7
NRF-10	05/13/98	7.98	614	1200	< 0.5	J 1.9	150	< 0.5	< 0.3	20.0	5.8
NRF-10	08/05/98	8.06	610	J 61	< 0.5	J 1.6	130	< 0.5	< 0.3	13.0	< 2.0
NRF-10	11/03/98	8.01	615	< 100	< 0.5	< 5.0	137	< 0.5	< 0.3	11.5	< 2.0
NRF-10	02/11/99	7.98	613	190	< 0.5	J 1.8	130	< 0.5	< 0.3	12.0	< 2.0
NRF-10		8.07	601	< 100	< 0.5	< 5.0	124	< 0.5	< 0.3	9.6	< 2.0

B = Compound is also detected in the blank. J = Result is detected below the reporting limit or is an estimated concentration. s = Sample diluted due to the concentration of target analytes. U = The MDL was raised to accommodate the detection of constituents in blank
 Wa = Post digestion spike recovery fell between 40-85% due to matrix interferences Q = The reporting limit was elevated due to high analyte levels

Appendix E, Table 1 - Metal Concentrations 1989 to Present (Concentrations are in parts per billion)

Well Number	Date Sampled	Specific Conduct																			
		pH	Aluminum (µg/cm)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper											
NRF-10	05/04/99	7.93	595	< 0.5	< 5.0	140	< 0.5	< 0.3	11.0	< 2.0											
NRF-10	07/29/99	7.93	600	< 0.5	< 5.0	140	< 0.5	< 0.3	13.0	< 1.1											
NRF-10	11/02/99	8.01	590	< 0.5	< 5.0	140	< 1.8	< 0.3	12.0	< 2.0											
NRF-10	02/01/00	8.02	590	< 10.0	< 3.0	150	< 2.0	< 5.0	11.0	< 2.2											
NRF-10	05/02/00		< 100	< 10.0	< 10.0	130	< 2.0	< 5.0	11.0	< 20.0											
	Mean	7.93	602.44	0.6	3.5	127.40	0.6	0.4	13.2	5.7											
	Std. Dev.	0.16	17.48	0.2	2.2	15.55	0.3	0.3	3.1	7.5											
	Max	8.07	630.00	1.0	9.0	150.00	1.8	1.0	20.0	30.0											
	Min	7.46	562.00	0.5	1.3	100.00	0.5	0.0	9.5	1.1											
NRF-11	01/18/96	7.67	615	< 1.0	< 2.0	100	< 0.5	< 1.0	21.0	< 10.0											
NRF-11	03/25/96	7.94	629	< 1.0	< 2.0	100	< 0.5	< 1.0	23.0	< 10.0											
NRF-11	06/12/96	7.96	631	< 1.0	< 2.0	100	< 0.5	< 1.0	24.0	< 10.0											
NRF-11	09/05/96	8.00	631	< 1.0	< 2.0	100	< 0.5	< 1.0	23.0	< 10.0											
NRF-11	01/30/97	7.95	680	< 0.5	< 9.0	130	< 0.5	< 0.3	25.0	< 10.0											
NRF-11	06/11/97	7.64	633	< 0.5	< 5.0	130	< 0.5	< 0.3	16.0	< 2.0											
NRF-11	09/04/97	7.97	575	< 0.5	< 5.0	140	< 0.5	< 0.3	17.0	< 2.5											
NRF-11	11/19/97	7.88	456	< 0.5	< 1.7	130	< 0.5	< 0.2	16.0	< 2.1											
NRF-11	02/11/98	7.95	625	< 0.5	< 1.8	130	< 0.5	< 0.3	14.0	3.3											
NRF-11	05/13/98	8.02	625	< 0.5	< 1.8	140	< 0.5	< 0.3	16.0	< 2.0											
NRF-11	08/05/98	7.99	628	< 0.5	< 5.0	141	< 0.5	< 0.3	14.2	< 2.0											
NRF-11	11/04/98	7.92	637	< 0.5	< 1.9	140	< 0.5	< 0.5	18.0	< 2.0											
NRF-11	02/11/99	8.04	638	< 0.5	< 5.0	138	< 0.5	< 0.3	13.5	< 2.0											
NRF-11	05/04/99	7.91	630	< 0.5	< 5.0	150	< 0.5	< 0.3	14.0	< 2.0											
NRF-11	07/29/99	7.89	630	< 0.5	< 5.0	140	< 0.5	< 0.3	17.0	< 2.0											
NRF-11	11/03/99	7.98	625	< 0.5	< 5.0	150	< 0.5	< 0.3	15.0	< 2.0											
NRF-11	02/01/00	8.02	615	< 10.0	< 3.5	160	< 2.0	< 5.0	17.0	< 3.2											
NRF-11	05/03/00		< 50	< 4.5	< 10.0	140	< 2.0	< 5.0	15.0	< 20.0											
	Mean	7.92	616.75	0.6	3.7	128.69	0.5	0.5	17.9	6.2											
	Std. Dev.	0.11	46.06	0.2	2.1	18.18	0.0	0.3	3.9	6.9											
	Max	8.04	660.00	1.0	9.0	150.00	0.5	1.0	25.0	28.0											
	Min	7.64	456.00	0.5	1.7	100.00	0.5	0.2	13.5	2.0											
NRF-12	01/22/96	7.81	684	< 1.0	< 2.0	200	< 0.5	< 1.0	18.0	< 10.0											
NRF-12	03/20/96	7.88	682	< 1.0	< 2.0	< 100	< 0.5	< 1.0	19.0	< 10.0											
NRF-12	06/12/96	7.97	682	< 1.0	< 2.0	100	< 0.5	< 1.0	20.0	< 10.0											
NRF-12	09/05/96	8.00	684	< 1.0	< 2.0	100	< 0.5	< 1.0	17.0	< 10.0											
NRF-12	01/30/97	7.93	730	< 0.5	< 1.4	150	< 0.5	< 0.3	21.0	< 10.0											
NRF-12	06/05/97	7.86	655	< 0.5	< 1.6	140	< 0.5	< 0.3	260.0	< 5.9											
NRF-12	09/04/97	7.93	645	< 0.5	< 5.0	160	< 0.5	< 0.3	23.0	< 2.1											
NRF-12	11/18/97	7.94	634	< 0.5	< 1.6	150	< 0.5	< 0.0	23.0	< 2.5											
NRF-12	02/11/98	7.90	708	< 0.5	< 1.7	150	< 0.5	< 0.3	18.0	UBJ											
NRF-12	05/13/98	7.96	710	< 0.5	< 1.8	170	< 0.5	< 0.3	25.0	< 2.0											
NRF-12	08/05/98	7.97	712	< 2.3	< 5.0	175	< 0.5	< 0.3	21.8	< 2.0											
NRF-12	11/04/98	7.99	713	< 0.5	< 1.9	170	< 0.5	< 0.3	25.0	< 2.0											
NRF-12	02/11/99	7.96	695	< 0.5	< 5.0	175	< 0.5	< 0.3	14.1	< 2.0											
NRF-12	05/05/99	7.80	685	< 0.5	< 5.0	180	< 0.5	< 0.3	21.0	< 2.0											

B = Compound is also detected in the blank. J = Result is detected below the reporting limit or is an estimated concentration. S = Sample diluted due to the concentration of target analytes. U = The MDL was raised to accommodate the detection of constituents in blank
 Wa = Post digestion spike recovery fell between 40-85% due to matrix interference Q = The reporting limit was elevated due to high analyte levels

Appendix E, Table 1 - Metal Concentrations 1989 to Present (Concentrations are in parts per billion)

Well Number	Date Sampled	Specific Conduct		Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper
		pH	(µS/cm)								
NRF-12	07/29/99	7.91	676	J 27	< 0.5	< 5.0	170	< 0.5	< 0.3	Wa	< 2.0
NRF-12	11/03/99	7.94	663	< 100	0.5	5.0	170	0.5	0.3	Wa	J 3.4
NRF-12	02/02/00	7.93	849	< 100	< 10.0	J 3.0	170	< 2.0	< 5.0	Wa	J 1.5
NRF-12	05/03/00			J 29	< 10.0	< 10.0	150	< 2.0	< 5.0	D, Q	< 20.0
Mean		7.92	685.13	75.01	0.8	3.0	153.75	0.5	0.5	45.1	4.9
Std. Dev.		0.06	26.52	35.42	0.6	1.6	30.25	0.0	0.3	85.4	3.7
Max		8.00	730.00	120.00	2.8	5.0	200.00	0.5	1.0	360.0	10.0
Min		7.80	634.00	10.00	0.5	1.4	100.00	0.5	0.0	14.1	2.0
NRF-13	01/22/96	8.17	495		< 1.0	2.0	< 100	< 0.5	< 1.0	31.0	5.0
NRF-13	03/20/96	8.35	489	< 10	< 1.0	2.0	100	0.5	< 1.0	30.0	7.0
NRF-13	06/13/96	8.36	532	3500	< 1.0	2.0	100	< 0.5	< 1.0	34.0	5.0
NRF-13	09/05/96	8.51	540	1400	1.0	1.0	100	< 0.5	< 1.0	26.0	2.0
NRF-13	02/03/97	8.37	430	14000		5.0	150			55.0	30.0
NRF-13	06/09/97	8.26	506	4800	< 0.5	1.4	84	< 0.5	< 0.3	35.0	5.7
NRF-13	09/05/97	8.26	515	19200	< 0.5	5.0	140	< 0.5	0.1	39.0	12.0
NRF-13	11/19/97	8.21	406	2800	< 0.5	2.0	92	0.5	0.1	34.0	11.0
NRF-13	02/11/98	8.27	548	1400	< 0.5	J 1.7	79	< 0.5	J 0.1	29.0	5.0
NRF-13	05/13/98	8.18	587	350	< 0.5	J 1.7	89	< 0.5	< 0.3	J 27.0	1.4
NRF-13	08/05/98	8.20	587	597	< 0.5	< 5.0	95	< 0.5	< 0.3	47.2	3.0
NRF-13	11/04/98	7.99	616	3100	< 0.5	J 1.8	110	< 0.5	< 0.3	25.0	2.0
NRF-13	02/11/99	6.23	628	1590	< 0.5	< 5.0	88	< 0.5	< 0.3	Wa, D, Q	4.0
NRF-13	05/05/99	7.96	678	2200	< 0.5	< 5.0	110	< 0.5	< 0.3	Wa, D, Q	J 4.5
NRF-13	07/29/99	7.89	624	3800	< 0.5	< 5.0	110	< 0.5	< 0.3	D, Q	J 4.5
NRF-13	11/03/99	7.96	618	2400	< 0.5	< 5.0	110	< 0.5	< 0.3	D, Q	J 7.0
NRF-13	02/02/00	8.02	596	16800	< 0.5	J 4.4	200	< 2.0	< 5.0	D, Q	28.0
NRF-13	05/03/00			3000	J 3.8	< 10.0	100	< 2.0	< 5.0	D, Q	J 6.9
Mean		8.20	543.44	4002.31	0.6	3.2	103.53	0.5	0.4	44.1	6.8
Std. Dev.		0.18	67.32	5171.62	0.2	1.7	18.91	0.0	0.4	20.6	6.8
Max		8.51	624.00	19200.00	1.0	5.0	150.00	0.5	1.0	92.0	30.0
Min		7.89	406.00	10.00	0.5	1.0	79.00	0.5	0.1	25.0	1.4
USGS-12	06/15/90	7.80	550			2.0	100		< 1.0	8.0	3.0
USGS-12	08/06/90	7.90	595	50		2.0	< 100		< 1.0	8.0	1.0
USGS-12	10/10/90	7.80	545			2.0	200		< 1.0	8.0	1.0
USGS-12	12/11/90	7.90	552			1.0	100		< 1.0	7.0	1.0
USGS-12	02/07/91	7.80	600			2.0	100		< 1.0	7.0	2.0
USGS-12	04/11/91	7.80	560			1.0					
USGS-12	06/10/91	7.80	575							4.0	
USGS-12	09/06/91	7.90	590							7.0	
USGS-12	12/05/91	7.90	575							6.0	
USGS-12	03/12/92	7.84	610							7.0	
USGS-12	06/19/92	7.93	590							5.0	
USGS-12	09/18/92	8.01	560							9.0	
USGS-12	12/01/92	7.89	560							10.0	
USGS-12	04/13/93	7.83	592							5.0	
USGS-12	06/14/93	7.92	600							5.0	

B = Compound is also detected in the blank. J = Result is detected below the reporting limit or is an estimated concentration. s = Sample diluted due to the concentration of target analytes. U = The MDL was raised to accommodate the detection of constituents in blank
Va = Post digestion spike recovery fell between 40-85% due to matrix interference Q = The reporting limit was elevated due to high analyte levels

Appendix E, Table 1 - Metal Concentrations 1989 to Present (Concentrations are in parts per billion)

Well Number	Date Sampled	Specific Conduct										Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper
		pH	(µS/cm)																
USGS-12	09/16/93	7.76	580															6.0	
USGS-12	11/05/93	7.80	590															5.0	
USGS-12	03/11/94	7.73	506															7.3	
USGS-12	06/10/94	7.80	605															8.0	
USGS-12	09/09/94	7.92	600															7.3	
USGS-12	10/27/94	7.84	600															7.3	
USGS-12	03/20/95	7.76	604															6.7	1.0
USGS-12	06/14/95	7.83	602															7.0	1.0
USGS-12	09/12/95	7.88	598															6.5	1.0
USGS-12	11/02/95	7.96	605															7.2	1.0
USGS-12	01/16/96	7.47	606															6.5	1.0
USGS-12	03/21/96	7.70	597															6.9	1.0
USGS-12	06/10/96	7.94	607															7.8	1.0
USGS-12	09/03/96	7.96	595															6.8	1.0
USGS-12	02/04/97	7.85	560															10.0	10.0
USGS-12	06/09/97	7.81	526															4.9	2.0
USGS-12	09/03/97	7.88	528															5.3	2.0
USGS-12	11/18/97	7.79	405															5.8	1.9
USGS-12	02/11/98	7.74	544															5.7	3.1
USGS-12	05/12/98	7.98	528															6.2	2.0
USGS-12	08/04/98	7.93	518															5.9	2.0
USGS-12	11/04/98	7.87	507															6.3	1.7
USGS-12	02/11/99	7.99	491															5.1	2.0
USGS-12	05/05/99	7.76	479															5.7	2.0
USGS-12	07/29/99	7.80	472															6.5	2.0
USGS-12	11/03/99	7.93	470															6.4	2.0
USGS-12	02/02/00	7.93	465															5.7	1.3
USGS-12	05/03/00																	5.9	20.0
Mean		7.85	562.37															6.7	1.9
Std. Dev.		0.10	47.77															1.3	1.8
Max		8.01	610.00															10.0	10.0
Min		7.47	405.00															4.0	1.0
USGS-97	11/30/89	7.80	570															19.0	2.0
USGS-97	03/19/90	8.00	570															7.0	3.0
USGS-97	06/07/90	7.80	565															8.0	4.0
USGS-97	08/01/90	7.90	585															8.0	7.0
USGS-97	10/04/90	7.40	560															7.0	1.0
USGS-97	12/07/90	7.90	595															7.0	5.0
USGS-97	03/13/91	8.00	580															8.0	
USGS-97	06/07/91	8.00	582															5.0	
USGS-97	09/05/91	8.00	595															9.0	
USGS-97	12/03/91	8.00	585															7.0	
USGS-97	03/16/92	7.94	575															6.0	
USGS-97	06/17/92	7.93	572															5.0	
USGS-97	09/21/92	7.94	570															6.0	
USGS-97	12/08/92	8.04	557															3.0	
USGS-97	04/06/93	7.90	578															6.0	

B = Compound is also detected in the blank. J = Result is detected below the reporting limit or is an estimated concentration. S = Sample diluted due to the concentration of target analytes. U = The MDL was raised to accommodate the detection of constituents in blank
 Wa = Post digestion spike recovery fell between 40-85% due to matrix interference Q = The reporting limit was elevated due to high analyte levels

Appendix E, Table 1 - Metal Concentrations 1989 to Present (Concentrations are in parts per billion)

Well Number	Date Sampled	pH	Specific Conduct (- S/cm)	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper
USGS-97	06/09/93	7.95	585							5.0	
USGS-97	09/13/93	7.80	600							6.0	
USGS-97	11/04/93	7.80	601							7.0	
USGS-97	03/14/94	7.73	600							6.7	
USGS-97	06/09/94	7.87	595							8.9	
USGS-97	09/08/94	8.00	600							6.5	
USGS-97	11/10/94	7.92	602								
USGS-97	03/16/95	7.87	595	20	< 1.0	2.0	< 100	< 10.0	< 1.0	5.7	4.0
USGS-97	06/13/95	7.89	597	30	< 1.0	2.0	< 100	< 10.0	< 1.0	6.7	2.0
USGS-97	09/11/95	8.06	600	20	< 1.0	2.0	< 100	< 10.0	< 1.0	6.1	2.0
USGS-97	11/06/95	7.96	604	< 10	< 1.0	2.0	< 100	< 10.0	< 1.0	6.8	3.0
USGS-97	01/17/96	7.38	583	20	< 1.0	1.0	< 100	< 0.5	< 1.0	6.2	1.0
USGS-97	03/25/96	7.85	596	< 10	< 1.0	2.0	< 100	< 0.5	< 1.0	6.1	< 1.0
USGS-97	06/11/96	7.96	600	40	< 1.0	2.0	< 100	< 0.5	< 1.0	6.5	< 1.0
USGS-97	09/04/96	8.03	602	20	< 1.0	2.0	< 100	< 0.5	< 1.0	6.6	< 1.0
USGS-97	02/03/97	7.91	560	< 100	< 0.5	1.6	120			8.0	< 10.0
USGS-97	06/10/97	7.85	608	< 100	< 0.5	1.4	120	< 0.5	< 0.3	4.3	2.0
USGS-97	09/03/97	7.97	612	< 100	0.4	1.7	130	< 0.5	< 0.3	5.4	2.9
USGS-97	11/18/97	7.94	445	< 100	0.4	1.6	120	< 0.5	0.0	4.6	2.2
USGS-97	02/10/98	7.91	614	< 100	< 0.5	1.8	120	< 0.5	< 0.3	5.3	3.2
USGS-97	05/12/98	8.02	615	< 100	< 0.5	1.8	140	< 0.5	< 0.3	6.1	< 2.0
USGS-97	08/04/98	7.98	614	< 100	< 0.5	5.0	140	< 0.5	< 0.3	5.9	< 2.0
USGS-97	11/03/98	7.94	611	84	< 0.5	1.9	140	< 0.5	< 0.3	6.4	< 2.0
USGS-97	02/09/99	7.93	615	< 100	3.2	5.0	131	< 0.5	< 0.3	5.4	< 2.0
USGS 97	05/04/99	7.79	614	27	< 0.5	5.0	150	< 0.5	< 0.3	5.3	< 2.0
USGS-97	07/28/99	7.90	609	24	< 0.5	5.0	148	< 0.5	< 0.3	7.2	1.0
USGS 97	11/02/99	7.97	606	110	< 0.5	5.0	150	1.6	< 0.3	7.0	< 2.0
USGS 97	02/01/00	7.95	600	< 100	< 10.0	3.1	150	< 2.0	< 5.0	6.3	2.6
USGS 97	05/02/00			< 100	< 10.0	10.0	140	< 2.0	< 5.0	6.9	< 20.0
			Mean	57.38	0.8	2.4	123.12	2.6	0.7	6.7	2.7
			Std. Dev.	40.47	0.6	1.3	28.96	4.0	0.4	2.3	2.0
			Max	110.00	3.2	5.0	200.00	10.0	1.0	19.0	10.0
			Min	10.00	0.4	1.0	100.00	0.5	0.0	3.0	1.0
USGS-98	11/29/89	7.90	430	< 10		2.0	< 100		< 1.0	7.0	7.0
USGS-98	03/19/90	8.00	406			2.0	< 100		< 1.0	4.0	4.0
USGS-98	06/05/90	8.00	425			2.0	< 100		< 1.0	7.0	2.0
USGS-98	07/30/90	8.00	420			2.0	< 100		< 1.0	8.0	1.0
USGS-98	10/03/90	7.80	392			2.0	< 100		< 1.0	7.6	2.0
USGS-98	12/07/90	8.10	405			2.0	< 100		< 1.0	6.0	3.0
USGS-98	03/13/91	8.00	410							8.0	
USGS-98	06/07/91	8.00	405							5.0	
USGS-98	09/05/91	8.00	411							7.0	
USGS-98	12/03/91	8.00	412							5.0	
USGS-98	03/16/92	8.02	398							4.0	
USGS-98	06/17/92	8.04	400							3.0	
USGS-98	09/21/92	8.02	405							5.0	
USGS-98	12/08/92	8.11	393							9.0	

B = Compound is also detected in the blank. J = Result is detected below the reporting limit or is an estimated concentration. s = Sample diluted due to the concentration of target analytes. U = The MDL was raised to accommodate the detection of constituents in blank
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Appendix E, Table 1 - Metal Concentrations 1989 to Present (Concentrations are in parts per billion)

Well Number	Date Sampled	Specific Conduct										Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper
		pH	(µS/cm)																
USGS-98	04/06/93	8.00	398															4.0	
USGS-98	06/08/93	8.05	398															3.0	
USGS-98	09/13/93	8.11	254																
USGS-98	11/02/93	8.07	257																
USGS-98	03/14/94	7.79	405															6.4	
USGS-98	06/09/94	7.93	406															6.0	
USGS-98	09/08/94	8.10	408															5.7	
USGS-98	11/09/94	7.99	410															6.7	
USGS-98	03/15/95	7.84	399									20		2.0		10.0		5.9	3.0
USGS-98	06/12/95	7.97	412									20		2.0		10.0		5.3	4.0
USGS-98	09/11/95	8.11	434									10		2.0		10.0		5.6	1.0
USGS-98	11/06/95	8.12	432									20		1.0		10.0		6.0	5.0
USGS-98	01/17/96	7.83	431									10		2.0		10.0		5.3	1.0
USGS-98	03/21/96	7.88	430									10		2.0		10.0		5.1	7.0
USGS-98	06/11/96	7.97	440									10		1.0		10.0		6.6	1.0
USGS-98	09/04/96	7.92	440									10		2.0		10.0		5.6	1.0
USGS-98	02/04/97	8.01	400									100		1.3				8.0	10.0
USGS-98	06/10/97	7.88	435									100		1.3				3.8	3.7
USGS-98	09/03/97	7.99	401									100		5.0				4.3	36.0
USGS-98	11/18/97	7.83	403									100		1.5				4.4	3.7
USGS-98	02/10/98	7.73	440									100		1.6				4.4	3.6
USGS-98	05/12/98	8.05	434									100		1.8				5.3	1.6
USGS-98	08/04/98	8.05	435									100		5.0				4.9	2.0
USGS-98	11/03/98	7.91	440									55		1.5				5.7	1.6
USGS-98	02/09/99	7.08	443									100		5.0				4.9	2.0
USGS-98	05/04/99	7.51	439									26		5.0				4.8	2.0
USGS-98	07/28/99	7.81	438									21		5.0				6.5	1.0
USGS-98	11/02/99	8.02	438									89		5.0				6.3	2.0
USGS-98	02/01/00	7.84	438									100		4.1				5.4	3.3
USGS-98	05/02/00											23		10.0				7.0	330.0

B = Compound is also detected in the blank. J = Result is detected below the reporting limit or is an estimated concentration. S = Sample diluted due to the concentration of target analytes. U = The MDL was raised to accommodate the detection of constituents in blank
 Wa = Post digestion spike recovery fell between 40-95% due to matrix interference Q = The reporting limit was elevated due to high analyte levels

Appendix E, Table 1 - Metal Concentrations 1989 to Present (Concentrations are in parts per billion)

Well Number	Date Sampled	pH	Specific Conduct (µS/cm)	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper
USGS-99	12/08/92	8.04	495							8.0	
USGS-99	04/06/93	7.92	498							4.0	
USGS-99	06/09/93	7.95	510							5.0	
USGS-99	09/13/93	7.78	520							6.0	
USGS-99	11/02/93	7.88	519							5.0	
USGS-99	03/14/94	7.74	523							5.3	
USGS-99	06/09/94	7.85	520							5.3	
USGS-99	09/07/94	7.97	520							5.3	
USGS-99	11/09/94	7.93	525							6.0	
USGS-99	03/15/95	7.80	519	< 10	< 1.0	1.0	100	< 10.0	< 1.0	5.4	1.0
USGS-99	06/12/95	7.90	528	10	< 1.0	1.0	100	< 10.0	< 1.0	5.4	4.0
USGS-99	09/11/95	8.06	530	< 10	< 1.0	1.0	< 100	< 10.0	< 1.0	5.0	1.0
USGS-99	11/06/95	7.96	526	< 10	< 1.0	1.0	< 100	< 10.0	< 1.0	5.5	1.0
USGS-99	01/17/96	7.46	525	< 10	< 1.0	1.0	100	< 0.5	< 1.0	5.1	< 1.0
USGS-99	03/25/96	7.72	532	< 10	< 1.0	2.0	< 100	< 0.5	< 1.0	5.9	2.0
USGS-99	06/11/96	7.96	532	< 10	< 1.0	1.0	< 100	< 0.5	< 1.0	5.6	3.0
USGS-99	09/04/96	8.02	537	20	< 1.0	2.0	< 100	< 0.5	< 1.0	5.5	< 1.0
USGS-99	02/04/97	7.93	520	500		1.3	99			15.0	550.0
USGS-99	06/10/97	7.89	540	< 100	< 0.5	1.2	93	< 0.5	< 0.3	3.6	
USGS-99	09/03/97	7.94	495	< 100	< 0.5	5.0	100	< 0.5	0.1	4.3	2.7
USGS-99	11/18/97	7.90	408	< 100	0.5	1.5	95	< 0.5	0.1	4.2	2.7
USGS-99	02/10/98	7.87	536	< 100	< 0.5	J	95	< 0.5	J	4.8	4.4
USGS-99	05/12/98	8.06	534	170	< 0.5	J	110	< 0.5	J	6.9	J
USGS-99	08/04/98	8.01	532	< 100	< 0.5	< 5.0	105	< 0.5	< 0.3	5.0	< 2.0
USGS-99	11/03/98	7.96	532	J	< 0.5	J	100	< 0.5	< 0.3	5.6	J
USGS-99	02/09/99	8.01	530	< 100	< 0.5	< 5.0	101	< 0.5	< 0.3	5.0	J
USGS-99	05/04/99	7.78	528	J	< 0.5	< 5.0	110	< 0.5	< 0.3	4.6	< 2.0
USGS-99	07/28/99	7.88	526	J	< 0.5	< 5.0	110	< 0.5	< 0.3	6.2	J
USGS-99	11/02/99	8.00	530	110	< 0.5	< 5.0	110	J	< 0.3	5.8	< 2.0
USGS-99	02/01/00	7.92	532	< 100	< 10.0	< 10.0	110	< 2.0	< 5.0	5.2	J
USGS-99	05/02/00			< 100	< 10.0	< 10.0	110	< 2.0	< 5.0	8.2	J
	Mean	7.92	517.74	75.05	0.7	2.2	104.92	2.5	1.1	5.7	24.0
	Std. Dev.	0.11	21.18	109.03	0.3	1.6	19.90	4.0	2.1	1.9	107.3
	Max	8.06	540.00	500.00	1.0	5.0	200.00	10.0	11.0	15.0	550.0
	Min	7.46	408.00	10.00	0.5	1.0	93.00	0.5	0.1	3.0	0.9
USGS-102	06/08/90	8.00	565								
USGS-102	08/01/90	8.00	570	40		2.0	< 100		< 1.0	8.0	2.0
USGS-102	10/04/90	7.90	538			2.0	200		< 1.0	6.0	1.0
USGS-102	12/10/90	8.00	555			2.0	< 100		< 1.0	7.0	1.0
USGS-102	02/07/91	8.00	550			2.0	100		< 1.0	8.0	2.0
USGS-102	04/11/91	7.90	544			1.0	< 100		< 1.0	10.0	3.0
USGS-102	06/07/91	8.00	556							6.0	2.0
USGS-102	09/05/91	8.00	575							7.0	
USGS-102	12/03/91	8.00	565							7.0	
USGS-102	03/16/92	7.97	555							6.0	
USGS-102	06/11/92	7.98	550							6.0	
USGS-102	09/16/92	7.99	610							10.0	

B = Compound is also detected in the blank. J = Result is detected below the reporting limit or is an estimated concentration. S = Sample diluted due to the concentration of target analytes. U = The MDL was raised to accommodate the detection of constituents in blank
 Wa = Post digestion spike recovery fell between 40-85% due to matrix interference Q = The reporting limit was elevated due to high analyte levels

Appendix E, Table 1 - Metal Concentrations 1989 to Present (Concentrations are in parts per billion)

Well	Date	Specific Conduct	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper
USGS-102	12/09/92	7.96	587						4.0	
USGS-102	04/06/93	7.90	580						7.0	
USGS-102	06/09/93	7.97	570						5.0	
USGS-102	09/13/93	7.80	582						6.0	
USGS-102	11/04/93	7.83	587						6.0	
USGS-102	03/10/94	7.83	588						7.0	
USGS-102	06/09/94	7.89	596							
USGS-102	09/08/94	7.99	589							
USGS-102	11/08/94	7.87	591						8.5	
USGS-102	03/16/95	7.85	596						7.8	
USGS-102	06/13/95	7.90	590		2.0	100	10.0	1.0	5.7	2.0
USGS-102	09/13/95	7.99	592		2.0	100	10.0	1.0	8.9	< 1.0
USGS-102	11/07/95	7.96	598		2.0	100	10.0	1.0	5.9	2.0
USGS-102	01/18/96	7.50	578		2.0	100	0.5	1.0	6.6	< 1.0
USGS-102	03/19/96	7.93	592		2.0	100	0.5	1.0	6.3	< 10.0
USGS-102	06/11/96	7.93	592		2.0	100	0.5	1.0	6.4	< 10.0
USGS-102	09/04/96	8.03	596		2.0	100	0.5	1.0	7.1	< 10.0
USGS-102	02/03/97	8.05	540		1.4	110	0.5	1.0	6.6	< 10.0
USGS-102	06/09/97	7.86	539		1.4	110	0.5	0.3	8.0	< 10.0
USGS-102	09/03/97	7.96	566		1.8	120	0.5	0.3	4.7	5.3
USGS-102	11/17/97	7.93	576		1.7	110	0.5	0.3	5.7	2.9
USGS-102	02/09/98	7.96	604		1.7	110	0.5	0.3	5.3	3.3
USGS-102	05/11/98	8.05	603		1.8	120	0.5	0.3	6.1	UBJ 2.5
USGS-102	08/03/98	7.98	603		5.0	126	0.5	0.3	6.0	< 2.0
USGS-102	11/02/98	8.02	606		1.7	130	0.5	0.3	6.7	< 2.0
USGS-102	02/09/99	7.94	604		5.0	122	0.5	0.3	Wa	< 2.0
USGS-102	05/03/99	8.12	602		5.0	130	0.5	0.3	Wa	< 2.0
USGS-102	07/27/99	7.93	596		5.0	130	0.5	0.3	8.8	< 2.0
USGS-102	11/01/99	7.83	583		5.0	130	0.5	0.3	7.2	< 2.0
USGS-102	01/31/00	7.94	586		10.0	140	2.0	5.0	6.4	3.5
USGS-102	05/01/00				10.0	120	2.0	5.0	7.1	< 20.0
Mean	7.94	577.80	52.42	0.7	2.4	113.38	2.5	0.7	6.7	3.7
Std. Dev.	0.10	20.94	38.95	0.3	1.3	21.26	4.0	0.4	1.3	3.3
Max	8.12	610.00	100.00	1.0	5.0	200.00	10.0	1.0	10.0	10.0
Min	7.50	538.00	10.00	0.2	1.0	100.00	0.5	0.0	4.0	1.0